Montana Fish, Wildlife & Parks

ENVIRONMENTAL ASSESSMENT DECISION NOTICE

Management Option of Stocking Fish in Ackley Lake and Martinsdale Reservoir

Region 4
4600 Giant Springs Road
Great Falls MT 59405-0901
June 24, 2014

Proposed Action

Previously, Montana Fish, Wildlife & Parks (FWP) removed suckers from Ackley Lake by trapping, but this was time consuming and required a long-term commitment to achieve the desired objective, which were short-term in duration. FWP recently proposed to stock tiger muskie in Ackley Lake & Martinsdale Reservoir to reduce suckers and improve the trout fisheries. The sucker species compete with the desired trout fisheries for food resources, thus limiting trout production. Recent sampling data has indicated that sucker numbers are very high in the proposed waterbodies and the proposed management option was developed to provide competitive release for the recreational trout fisheries. Tiger muskie were proposed as a biological control because they are a sterile hybrid, meaning that their populations can be strictly controlled by fisheries managers. Additionally, tiger muskie are effective predators (preferring soft-rayed, bottom-oriented prey such as suckers), experience very high growth rates, and have a documented history of successful biological control in Montana.

Montana Environmental Policy Act

FWP is required to conduct a thorough evaluation of stocking fish not indigenous to a waterbody according to Administrative Rule of Montana (ARM) 12.7.601(4), this is done through the Montana Environmental Policy Act (MEPA). MEPA is used to assess significant potential impacts of a proposed action to the human and physical environment. In compliance with MEPA, a draft Environmental Assessment was prepared by FWP for the proposed project and released on April 11, 2014 for public comment. The draft EA was titled: Management Option of Stocking Fish in Ackley Lake and Martinsdale Reservoir. The draft EA was circulated to local sporting groups and was also posted and remains available for viewing on the FWP webpage: http://fwp.mt.gov/news/publicNotices. Legal notice indicating release of the EA was sent to the *Lewistown News-Argus*. The EA evaluated the potential impacts of the following alternatives:

Alternative A: No Action

If the No Action alternative were adopted, rainbow trout condition and the associated recreational fishery would be dependent upon the fluctuations of the sucker populations. Without any control measures, the quality of the rainbow trout fishery would likely decrease, leading to unsatisfied anglers and less recreational angling opportunities. The No Action alternative would not fulfill the objectives of improving the quality of rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir or increasing recreational angling opportunities.

Alternative B: Mechanical Suppression Option

The Mechanical Suppression alternative would provide the desired impacts to the rainbow trout fisheries by manually removing suckers from the systems. A positive of this approach is that there are no risks stemming from biological manipulation. There are numerous downsides to this alternative which were discussed, including time, cost, and labor and the fact that any improvements are short-term in nature. The Mechanical Suppression alternative would likely fulfill the objectives of improving the quality of the rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir and increasing angling opportunities, however, this alternative would not produce a unique fishery and the associated costs are high.

Alternative C: Stock Tiger Muskellunge Option (Preferred Alternative)

The Stock Tiger Muskellunge alternative would provide the desired outcome to the rainbow trout fisheries by providing biological control of the sucker populations and providing an additional unique, trophy fishery. This alternative has the highest probability to fulfill the objectives of reducing sucker abundance, improving the quality of the rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir, increase angling opportunities, and provide angling for a unique fish species. This alternative would provide Montana Fish, Wildlife, and Parks the option of planting tiger muskellunge in the aforementioned waterbodies.

Summary of Public Comment and FWP Response

A total of 32 comments were received during the public comment period which ended on May 16, 2014. All but 3 of the comments were received via email; the others were made verbally to FWP staff. Twenty-one comments were supportive of the Preferred Alternative, ten comments were made in support of the No Action Alternative, and one comment was made without expressing a position. Comment summaries and the department's responses are as follows:

Comment Summary 1

Tiger muskie will not only consume suckers, but may have negative impacts on the trout fisheries via direct predation or preying on trout food items such as crustaceans or small fish. Some comments mentioned that the trout fishing in nearby Deadmans Basin Reservoir has suffered since the introduction of tiger muskie as a biological control of the

reservoir's sucker population. Other comments pointed to Deadmans Basin Reservoir as an example of success and claimed that the trout fishery has been improved since the introduction of tiger muskie.

Response to tiger muskie predation: FWP acknowledges that tiger muskie would consume some trout if they were introduced into the proposed waterbodies. However, as discussed in the draft EA, tiger muskie have a documented preference for benthic, soft-rayed fishes such as suckers and are expected to feed primarily on suckers due to habitat overlap. Should predation of trout become an issue, FWP has the option to reduce or eliminate tiger muskie stocking and increase the stocking rates of trout. Tiger muskie would also consume some trout food items such as crustaceans and small fish, however these impacts are not expected to be significant to the crustacean population or to the trout fisheries based on findings from other Montana waterbodies where tiger muskie have been stocked. If unexpected detrimental impacts are observed, they can be mitigated by adjusting stocking rates.

Response to Deadmans Basin Reservoir comparison: Sampling data from Ackley, Deadmans, and Martinsdale can be found in Figure 1. The data indicate that rainbow trout catch-per-unit-effort (CPUE, which is an indicator of density) is higher in Deadmans (25 fish/net/night) than Martinsdale (10 fish/net/night) and about even with Ackley (26 fish/net/night). Sucker CPUE is higher in Ackley (36 fish/net/night) and Martinsdale (61 fish/net/night) than in Deadmans (17 fish/net/night). Additionally, the rainbow trout CPUE in Deadmans has remained stable since 2005, indicating that tiger muskie predation has not led to a decline in rainbow trout abundance. In comparing the data from Deadmans Basin Reservoir with those from Ackley Lake and Martinsdale Reservoir it appears as though the trout fishery in Deadmans Basin is stable and the sucker population is maintaining at an acceptable level of about 20 fish/net/night. In addition to acceptable sucker numbers, the popularity of Deadmans Basin Reservoir has increased as measured by annual angler days following the introduction of tiger muskie (Figure 2). Comparing the data from Deadmans Basin and the proposed waterbodies indicates that the management action would be appropriate to manage sucker populations and would possibly increase angler use at Ackley and Martinsdale.

Comment Summary 2

Talk with the trout anglers to get their opinions.

Response: FWP has made the draft EA available to the public via its website, posted a legal notice in the *Lewistown News-Argus* (which also appeared in the *Billings Gazette*), and met with the Snowy Mountain Chapter of Trout Unlimited to discuss the draft EA. The draft EA was also

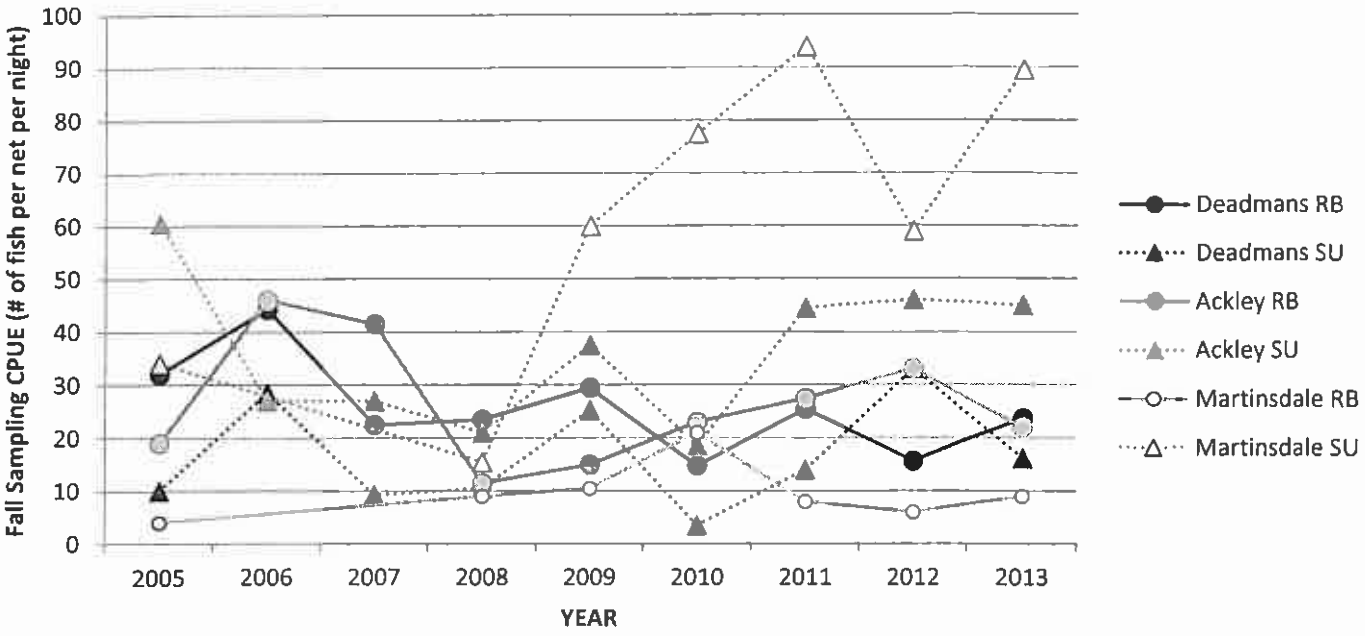

Figure 1. Catch-per-unit-effort (CPUE) of rainbow trout (circles) and white suckers (triangles) from Deadmans Basin Reservoir (black), Ackley Lake (grey), and Martinsdale Reservoir (white) from 2005-2013.

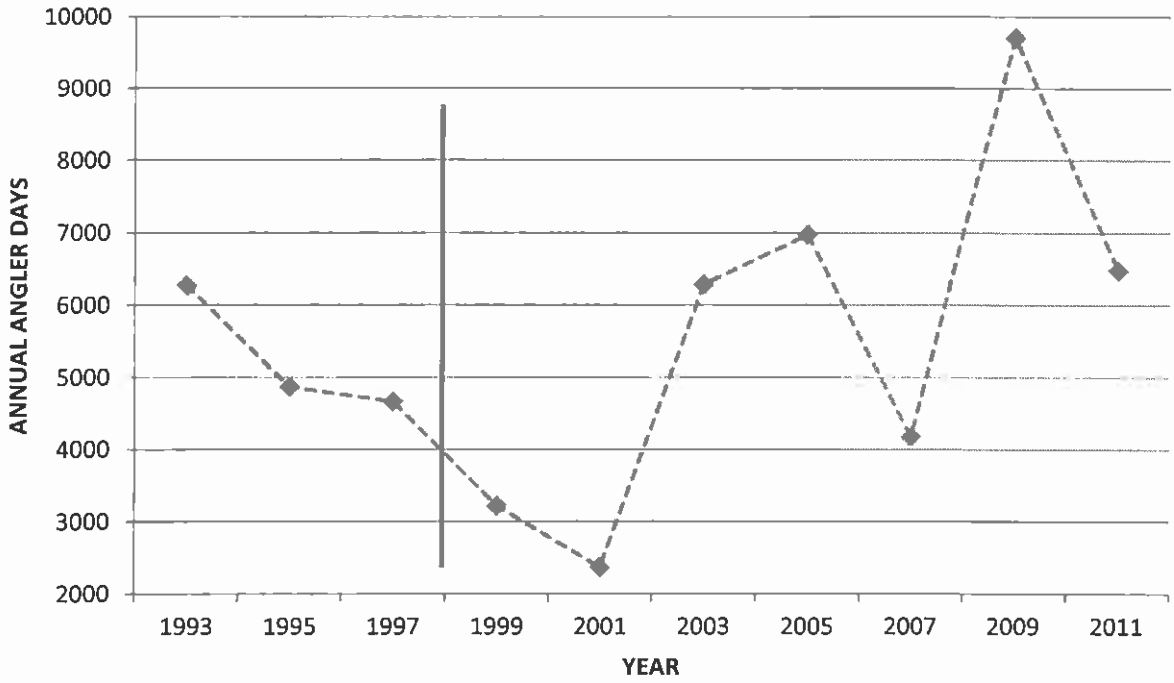

Figure 2. Annual angler days on Deadmans Basin Reservoir from 1993 to 2011. Tiger muskie were initially stocked in 1998. Note the declining trend resulting from a poor trout fishery until 2001 and the increasing trend post tiger muskie establishment from 2001 to 2011.

released for a public comment period which began April 11, 2014 and ended May 16, 2014.

Comment Summary 3

Stocking tiger muskie will increase the risks of illegal introductions.

Response: It is important to consider the public perception of introducing non-native fish into Montana waterbodies. Illegal introductions in the state are numerous and costly. By performing a state-sanctioned introduction of tiger muskie as a management tool, those who might perform an illegal introduction could be discouraged from performing illegal introductions of other predatory fish (i.e. tiger muskie, northern pike, walleye, largemouth bass, etc.). This issue is a continual threat in Montana, regardless of the presence of tiger muskie. The best way to mitigate against its occurrence is to educate the public and encourage self-governance. The management action of stocking tiger muskie as biological control has been utilized in various waterbodies in Montana and to date no illegal introductions have followed. An additional benefit of utilizing tiger muskie is that they are sterile fish, meaning that if they were illegally moved, their biological impact would be limited by the fact that they will not reproduce and create self-sustaining populations elsewhere.

Comment Summary 4

Martinsdale Reservoir is currently a great trout fishery in which suckers are not a problem. There is no need for sucker suppression efforts on Martinsdale.

Response: The options proposed in the draft EA are intended to improve the trout fishery in Martinsdale. Based on the long-term sampling data from Martinsdale Reservoir (Figure 3), rainbow trout CPUE is very low, while sucker CPUE has been the highest on record since 1989 in two of the past three years. Since 2005, FWP sampling in Martinsdale has sampled 6 suckers to every 1 trout compared to 0.6 suckers to every 1 trout in Deadmans Basin; another lake where tiger muskie have been used. This data suggests that white sucker suppression would benefit the trout fishery by reducing competition between the species. Numerous comments were received from anglers stating that they did not perceive a sucker problem in Martinsdale and found the trout fishing to be satisfactory in its current condition. These contradictory lines of evidence suggest that FWP sampling may not be matching up with what the anglers are experiencing in Martinsdale.

Comment Summary 5

Alternative stocking options should be evaluated such as walleye, pike, bass, tiger trout, or larger rainbow trout.

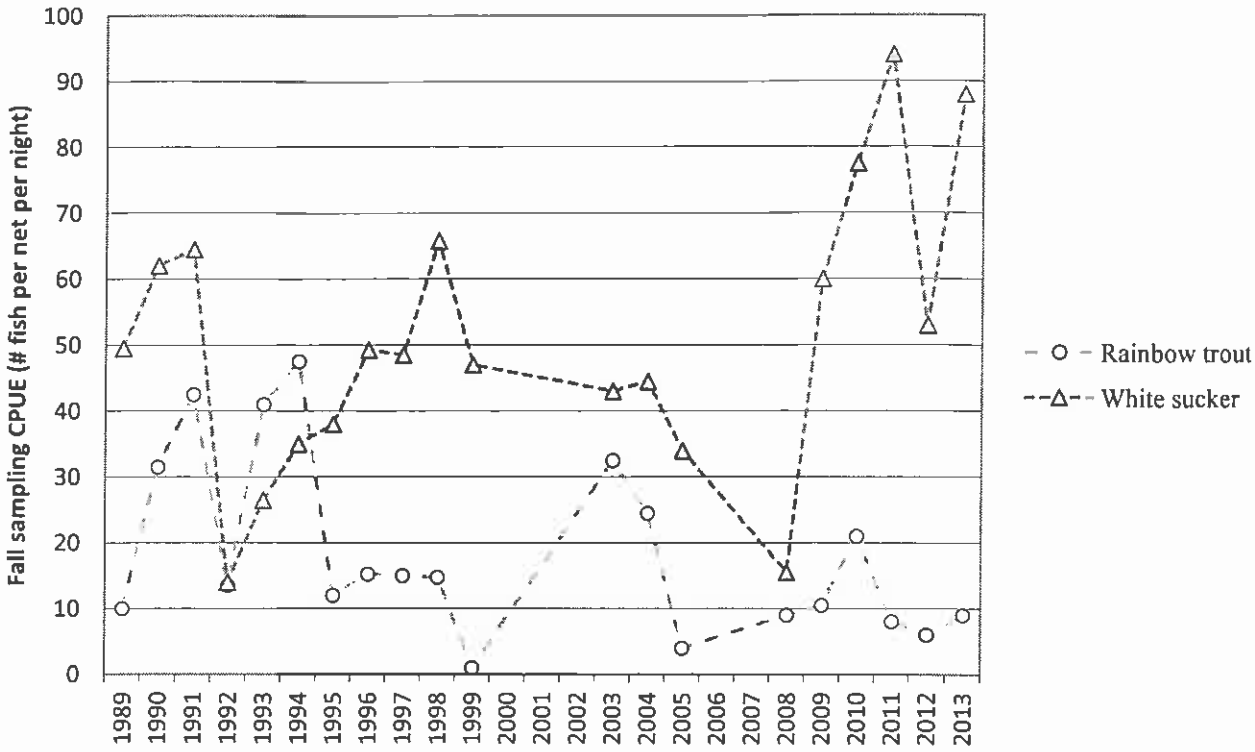

Figure 3. Fall catch-per-unit-effort (CPUE) of rainbow trout and white sucker in Martinsdale Reservoir from 1989 to 2013.

Response to stocking non-trout species: Ackley Lake and Martinsdale Reservoir are popular trout fisheries and will continue to be managed as trout fisheries. FWP has no plans at this time to alter the target fisheries in the proposed waterbodies. Tiger muskie would be stocked primarily as a management tool to suppress sucker populations. An additional benefit of using tiger muskie is that it provides anglers a unique fishery to target. Tiger muskie are a sterile hybrid which allows fisheries managers to strictly control their population levels, whereas other species such as northern pike and largemouth bass would be able to successfully reproduce, thus creating self-sustaining populations among the preferred trout fisheries. This is not a desired outcome of the draft EA.

Response to altered trout stocking: Tiger muskie have proven to be successful at suppressing sucker populations due to their highly piscivorous nature and rapid growth rates. These factors make them much more efficient as a biological control tool than trout species. Trout species can be effective biological controls when the prey is within a limited size range. However, as Figure 4 shows, the majority of the sucker populations are currently larger than 12 inches. Numerous studies have found that trout species are able to prey upon fish up to approximately 30-40% of their own body length, due to gape limitations (ĹAbee-Lund et al. 2006; Parkinson et al. 1989; Roholt et

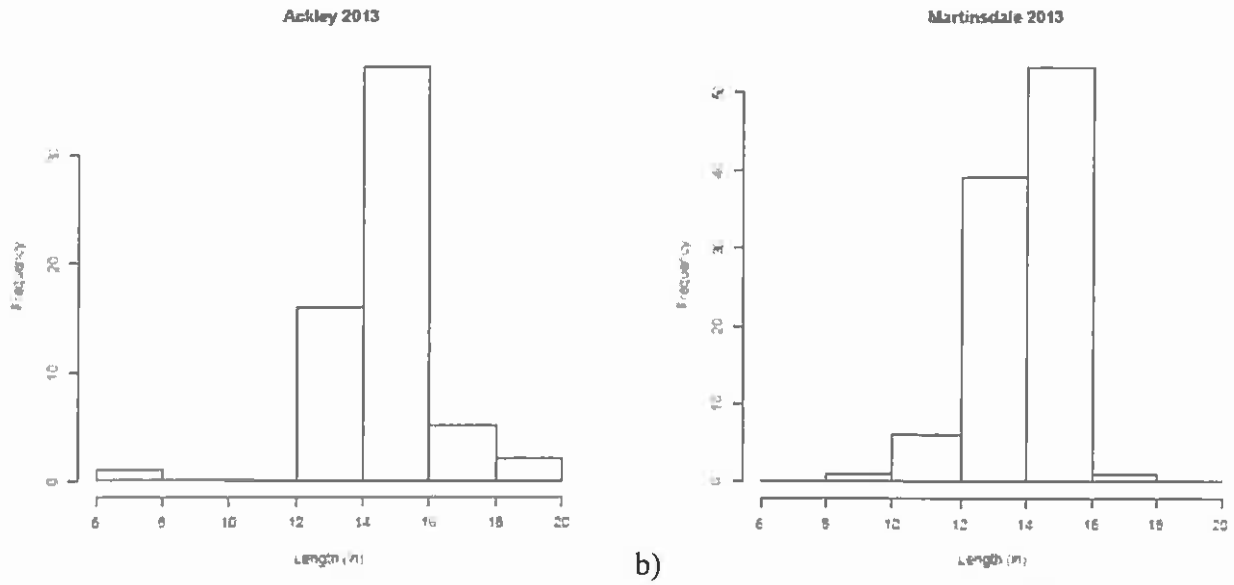

Figure 4. Histogram showing size structure of white suckers sampled from a) Ackley Lake and b) Martinsdale Reservoir in 2013.

al.). Tiger muskie, on the other hand, are able to consume fish up to 40-50% of their own body length (Bozek et al. 1999). Based on this evidence, stocking piscivorous trout will not address the sucker problem due to their inability to efficiently forage on the larger size classes within the sucker populations. Additionally, stocking tiger trout or larger rainbow trout would be cost prohibitive and put an increased burden on the state's hatchery system. Montana FWP does not have a secure, certified disease-free source of tiger trout nor is there a documented history of tiger trout being successful at reducing sucker numbers to benefit other trout species. Developing new sources of fish would require time and space that is not currently available. Growing larger rainbow trout for the purpose of sucker control would be very costly due to the increased feed costs to grow the fish and fuel costs to stock them out. Also, the quality of the fish declines drastically the longer the fish are held at the hatchery. Stocking trout as a biological control of the sucker populations would be expensive, time-consuming, and not effective due to their inability to effectively forage on the larger size classes present in the sucker populations. FWP is considering altering the current rainbow trout stocking regime (number and strain of fish stocked) to greater utilize the sucker forage, however these fish will be stocked as fingerlings (~4 inches) or catchables (~8 inches) to maintain cost effectiveness and not increase the burden on the hatchery system.

Decision

Based on the Environmental Assessment, public comment, and FWP evaluation, it is my decision to proceed with Alternative C at Ackley Lake to achieve the desired objectives as described in the draft EA. Based on new information provided by the public I have

decided to not proceed with the proposed action at Martinsdale Reservoir at this time. Information from the public indicates there is not an issue with the trout fishery at Martinsdale Reservoir. I have decided that it is necessary to collect more information on the disparity between angler satisfaction and biological condition monitoring of trout in Martinsdale Reservoir. FWP will make future management recommendations based on the results of additional study of angler catch and the fish community in Martinsdale Reservoir.

I find there to be no significant impacts on the human and physical environments associated with the proposed action. Therefore, I conclude that the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.

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Gary Bertellotti
FWP Region 4 Supervisor

References

Bozek, M. A., T. M. Burri, and R. V. Frie. 1999. Diets of Muskellunge in Northern Wisconsin Lakes. North American Journal of Fisheries Management. 19:258-270.

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